

**REMARKS**

I. **Substance of Interview**

At the interview with Applicant's attorney on December 28, 2005, the examiner heard the Applicant's attorney explain that an important aspect of the invention was to avoid moisture in the inert gas supply during welding the first pass using a hydrogen-inert shield gas mix. The level of moisture avoidance, as explained by Applicant's counsel, extended far beyond simply avoiding liquid moisture in a gas supply line or gas supply bottle. Indeed, as explained in the specification of the application and in the response to the last Official Action submitted in this application, it was discovered that with the basic welding process using hydrogen in the shield gas on a root pass as defined in the claims of the application, moisture permeating elastomer supply hoses was a factor to be considered to avoid adversely influencing the ability to complete the next weld filler pass. The extent of the adverse influence varied depending on various conditions but it was ultimately determined by Applicant that the selection of elastomer gas supply hoses having a low moisture permeability coefficient solved the problem of weld metal splatter encountered during the second weld pass using hydrogen-free inert shield gas.

The examiner expressed reservations about the scope of claim 1 as presented in the application as of the date of the interview and suggested incorporating the moisture permeability coefficients defined in claim 2 into claim 1 to better define the invention.

The examiner also suggested that Applicant make a showing of permeability coefficients of conventional hose materials.

Applicant's counsel also discussed the patentability of claims directed to the welding electrode compositions used in carrying out the basic welding procedures defined in the claims, in particular claims 7 and 8. It was emphasized that Applicant made the surprising discovery that such electrode compositions improved electrode life substantially when used with the welding procedures defined in the preambles of claims 7 and 8.

II. **Discussion**

Claim 1 has been amended to incorporate claim 2 and claim 2 has been canceled. Claim 3 has been amended to depend from amended claim 1 in view of the cancellation of claim 2 and claim 18 has been canceled as redundant in view of the amendment made to claim 1 and existing claim 5.

It is respectfully submitted that claim 1 as currently presented is fully patentable over all of the prior art currently of record in the application.

In compliance with a request expressed by the examiner, Applicant herewith submits a paper herewith (see Appendix A) presenting data extracted from the July 1999 AWS Welding Journal, pages 37 and 38 from an article entitled "How weld hose materials affect welding gas quality". The full article is included in an Information Disclosure Statement submitted with the response to the last Official Action on December 23, 2005.

It is apparent from the Welding Journal article that the range of permeability coefficients with regard to moisture is substantial. It is respectfully submitted that Applicant's discovery that moisture permeation in elastomer gas supply hoses is a contributing factor in producing certain adverse effects encountered when making the second filler weld pass over the root pass weld made according to the basic weld process recited in the preamble of claim 1 is not a discovery that would be obvious to a person of ordinary skill in the art and the selection of an elastomer shield gas delivery hose having a moisture permeability coefficient of 0 to 275 also would not be obvious to a person of ordinary skill in the art. Accordingly, it is respectfully requested that withdrawal of the rejection of claim 1 is warranted and the same is respectfully requested.

Claim 3 likewise is believed to recite patentable subject matter in reciting the use of an elastomer delivery hose having a moisture permeability coefficient below 100.

Likewise, the invention recited in claim 4 appears to be fully patentable over the prior art of record.

With regard to claims 5 and 6, the use of an electrode composition as recited in the claims in combination with the welding process recited in claim 1 as amended appear to be fully patentable over the prior art of record.

With regard to claims 7 and 8, it is respectfully submitted that nothing in the prior art suggests that it would be obvious to a person of ordinary skill in the art to use non-

U.S. Patent Application Serial No. 10/716,505  
Attorney Docket: FLOO3001/JEK

consumable welding electrodes having the compositions recited in the claims in combination with the specific welding process recited in the preamble to each claim.

With regard to claims 9-17, it is respectfully submitted that each of these claims recites patentable subject matter and furthermore the claims are fully patentable in view of the patentability of claim 1 from which they depend directly or indirectly.

Review of the amendments, showing and comments submitted in this paper, it is respectfully submitted that this application is ready for allowance and the same is respectfully requested.

Respectfully submitted,  
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